

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Currently amended) A network device, comprising: that communicates with other network devices connected through a network, wherein:
said network device comprising:
cipher communication means for performing cipher communication with a group of network devices using a common encryption key that is mutually authenticated by the group of network devices:
a-group management means for managing the group which manages a group consisting of network devices in the performance of said cipher communication using said common encryption key; that can authenticate one another;
a cipher communication means, which performs cipher communication with the network devices belonging to said group, using a common encryption key;
a storage means for storing cipher communication information including said common encryption key and identification information identifying the network devices of said group; , which stores cipher communication information required for cipher communication with the network devices belonging to said network, with said information including information of said encryption key and identification information including host names and addresses of the network devices belonging to said group; and
an acquisition means, which acquires acquisition means for receiving a first external storage medium and acquiring cipher communication information from outside from said first external storage medium, said cipher communication information enabling said network device to perform said cipher communications with said network devices of said group, ;and
wherein said group management means comprises:

means for adding an identification of the network device to said cipher communication information acquired from said external storage medium and for storing said cipher communication information into said storage means,

means for sending identification information of the network device, as a group participation notification, to said group of network devices when said first external storage medium is mounted and said cipher communication information is not stored in said storage means; and

means for receiving a group participation notification and for adding identification information included with said received group participation notification to said cipher communication information stored in said storage means, and

wherein said cipher communication means performs a cipher communication between network devices in said group according to said identification information included in said cipher communication information stored in said storage means using said common encryption key.

~~when said acquisition means acquires said cipher communication information in a state that said storing means does not store said cipher communication information; said group management means stores said cipher communication information in said storing means and sends identification information of its own network device to the network devices belonging to said group; and~~

~~when said group management means acquires identification information of another network device from said another network device through said cipher communication means; said group management means adds said identification information to said cipher communication information stored in said storage means.~~

2. (Currently amended) A network device according to claim 1, wherein said group management means further comprises:

~~when said acquisition means receives an instruction to withdraw from the group; said group management~~

means ~~notifies~~ for notifying each network device of said group of a withdrawal by the network device from cipher communication with said group according to the identification information stored in said storage means, ~~withdrawal of its own network device to all the network devices belonging to said group through said cipher communication means, and deletes deleting~~ said cipher communication information from said storing means when a second external storage medium having no cipher communication information stored thereon is mounted at the network device; and

means for deleting identification information associated with a first network device in said group of network devices from said cipher communication information stored in said storage means ~~when a notification of withdrawal of another said first network device is received from said another network device through said cipher communication means, said group management means deletes identification information of said another network device from said cipher communication information stored in said storing means.~~

3. (Currently amended) A network device according to claim 2, wherein:

when the first external storage device is mounted, said group management means compares group identifiers corresponding to cipher communication information stored on the first external storage device with group identifiers of cipher communication information stored in said storage means and copies said cipher information stored in said storage means to said first external storage device if a match is detected between the respective group identifiers.

~~said acquisition means is an interface with a storage medium; and~~

~~when a storage medium, which stores said cipher communication information, is inserted into said acquisition means in a state that said storage medium stores said cipher communication information, said group management means copies the cipher communication information stored in said storage means to said storage medium.~~

4-5. (Canceled)

6. (Currently amended) A group management method for network devices belonging to a group of network devices which perform cipher communication via a network, the

method comprising: managing a group consisting of devices connected through a network, with a device of the group being able to perform cipher communication with another device of the group while authenticating each other, comprising

a group generation step, performed when a first external storage medium is mounted at a first network device belonging to said group of network devices and said first network device does not hold cipher communication information, in which one the first device connected to said network generates an encryption key used for said cipher communication, and holds, as cipher communication information, said encryption key and network device identification information- and copies said cipher communication information to a first external storage medium allocated to the group of network devices; including a host name and address of said one device itself;

a first group participation step, performed when the first external storage medium which stores cipher communication information is mounted at the first network device and said first network device does not hold cipher communication information, in which said first network device sends identification information as a group participation notice through said cipher communication to devices of said group, and a device that acquires said cipher communication information notifies identification information of the device itself and information indicating participation of the device itself to all devices whose identification information is stored in said cipher communication information, and said device adds said identification information of the first network device itself to said cipher communication information acquired from the first external storage medium and holds said cipher communication information;

a second group participation step, performed when the first network device receives a group participation notice comprising identification information from another network device in said group of network devices, in which a the first network device that receives said identification information and said information indicating the participation adds said received identification information to the said cipher communication information; that said device holds

a first withdrawal step, performed when the first network device holds cipher communication information and a second external storage device which does not hold cipher

communication information is mounted at the first network device, in which a the first network device that receives an instruction to withdraw from said group notifies sends information indicating its withdrawal from the group and identification information of the device itself to all other devices in said group based on excluding said device itself whose identification information is stored at said first network device in said cipher communication information, and thereafter deletes the said cipher communication information; and that the device itself holds;
and

a second withdrawal step, performed when said first network device receives information indicating that another network device in the group of network devices is withdrawing from cipher communications, in which a said first network device that receives the notification of said withdrawal deletes the notified identification information corresponding to said another network device from the cipher communication information held by the first network device. that the device itself holds.

7. (Currently amended) A computer-readable storage medium which records a program that makes a computer for making a first network device perform cipher communication with a group of network devices via a network, the program comprising steps of: function as a group generation generating an encryption key used for cipher communication with the network devices of said group, storing, means that generates an encryption key used for cipher communication and holds; as cipher communication information, said encryption key and network device identification information, and copying said cipher communication information to a first external storage medium when the first external storage medium is mounted at the first network device and said first network device does not hold cipher communication information;

including a host name and address of the computer itself;

a first group participation means that notifies sending identification information as a group participation notice through said cipher communication to said devices of said group, adding identification information of the first network device to said cipher communication information acquired from the first external storage medium, and holding said cipher communication information at said first network device when the first external storage medium

which stores cipher communication information is mounted at the first network device at a time when said first network device does not hold cipher communication information;

~~and information indicating participation of the computer itself to all devices whose identification information is stored in said cipher communication information, through cipher communication, and adds the identification information of the computer itself to said cipher communication information, when said cipher communication information is acquired~~
receiving a group participation notice comprising identification information from another network device in said group of network devices, and adding said identification information received from said another network device to said cipher communication information held at said first network device; a second group participation means that adds said identification information of another device to the cipher communication information that the computer itself holds, when said identification information of said another device and information indicating participation of said another device are received from said another device;
~~a first group withdrawal means that notifies sending~~ information indicating withdrawal of the first network device from the group of network devices to all other devices of said group when the first network device hold cipher communication information and a second external storage medium which does not hold cipher communication information is mounted at the first network device; and

~~identification information of the computer itself to all devices excluding the computer itself whose identification information is stored in the cipher communication, through the cipher communication, and deletes said cipher communication information that the computer itself holds, when an instruction to delete the cipher communication information is received; and~~
receiving information indicating that another network device in the group of network devices is withdrawing from cipher communication, and deleting a second group withdrawal means that deletes identification information of another corresponding to said another network device from the cipher communication information held by the first network device, that the computer itself holds, when said identification information of said another device and information indicating withdrawal of said another device are received.

8. (Currently amended) A network device according to claim 1, wherein:
~~said acquisition means is an interface with a storage medium; and~~
when ~~a~~ the first external storage medium, which stores said cipher communication information, is mounted and cipher information is stored in said storage means, inserted into said acquisition means in a state that said storage medium stores said cipher communication information, said group management means copies the cipher communication information stored in said storage means to said first external storage medium.

9.-14. (Canceled)

15. (Previously presented) A network system comprising a plurality of network devices, and a network that connects said plurality of network devices, wherein:
each of said plurality of network devices is a network device according to claim 8.

16. (Previously presented) A network system comprising a plurality of network devices, and a network that connects said plurality of network devices, wherein:
each of said plurality of network devices is a network device according to claim 1.

17. (Previously presented) A network system comprising a plurality of network devices, and a network that connects said plurality of network devices, wherein:
each of said plurality of network devices is a network device according to claim 2.

18. (Previously presented) A network system comprising a plurality of network devices, and a network that connects said plurality of network devices, wherein:
each of said plurality of network devices is a network device according to claim 3.